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A PRACTICAL THEORY AND TREATMENT OF PULMON- ARY TUBERCULOSIS.

BY FRANK S. PARSONS, M. D.,
PHILADELPHIA, PA.

Editor of The Times and Register.

Is pulmonary tuberculosis curable? Undoubtedly! When? At any time before destructive changes have advanced to a point beyond which the organism is incapable of sustaining life; or, before the primary cause of such changes in retrograde metamorphosis has become lost in the secondary pathological processes, which of themselves, would advance the organism toward ultimate dissolution. Of course, the curability of any disease, in a measure, depends upon an intimate knowledge of its causation and a rectifying of disturbed relations, and, in this, the physician must have the hearty co-operation of his patient. The latter is not always an easy matter to bring about in tuberculosis, for persons afflicted with this disease are prone to disbelieve the diagnosis of the physician, in the forlorn hope that he may be mistaken, or that it is quite impossible for them to become the victims of so dangerous a malady.

It is not my idea, in presenting this paper before the profession, to add to the general confusion, which now reigns, regarding tuberculosis; nor to attempt to laud any new methods above others in vogue; but, I believe, a clearer light may be thrown upon the etiology and treatment of this disease, based upon the successes and failures of the past, and the recognition of the primitive condition which leads to the development of pulmonary tubercles.

Of one thing I am quite confident, that is, we may search and search in vain for the antidote, or specific medication in tuberculosis, unless we

get off the track of the microbe, and develop the cause for the underlying condition, upon which the development of all bacteria must depend.

We should be thankful for the work of the bacteriologist; the researches of this class of men have taught us much, although the germ has been the uppermost theme, and its products of toxins and toxalbumens, as the misty clouds which obscure the light of underlying pathology, have given us doubtful ideas regarding the etiology of disease. We have lost sight of the chemical composition of man, and the fact that disease is only a chemical decomposition, in the universal furor after a specific germ, the phenomena of which may be observed in various media, in and outside the body. We have been scientifically brought face to face with that ancient but burning question as to which was first, the chicken or the egg? We are conscientiously taught that no disease can develop except from its germ, and that no germ can develop except from its disease.

In view of the many vaunted methods of treatment in cases of pulmonary tuberculosis, some of which have certain values, others of which are worse than useless, we may well look deeper into the underlying phenomena of this disease, and ascertain, if possible, the primitive causes, the earlier symptoms, and base on them the more radical treatment.

In the first place, it is to be borne in mind that no two cases of pulmonary tuberculosis should receive identical treatment, solely because they are tubercular cases. Personal idiosyncrasies must be taken into account, modes and circumstances of life, the stage of the disease, and a thousand minor details, which the well-informed physician considers and governs his treatment accordingly.

ms. 10. 6674

CONCERNING THE ETIOLOGY OF TUBERCULOSIS.

The developments from the experimental inoculation of animals with cultured tubercle bacilli, during the past decade, have gone so far that the profession is now beginning to see that there is yet considerable to be learned concerning the causation of tuberculosis. In fact, it has been evident for some time that we have allowed the bacillus craze to get beyond our better judgment.

It cannot be denied that the tubercle bacillus plays an important part in the phenomenal expression, if not the etiology of tuberculosis, but the facts are daily being brought to light which tend to prove that the bacillus alone, as a causative agent in this disease, is as inefficient as a grain of wheat is ungerminative without sunlight, air and moisture.

When is considered the impunity with which colonies of tubercle bacilli have been swallowed, we must fall back on the certainty of a pre-existing condition, which, when present, offers favorable influence for the development of the bacilli, and on which the latter depend for support; or, otherwise, that the bacteria are a product of the disease, and causative only as they have the power of reproducing themselves, and, when in great numbers, of acting as foreign bodies. That tubercle bacilli reproduce themselves is not doubted, but this simple fact does not argue anything, as it is no more than does the animal kingdom in general. If they produce toxalbumens, as is asserted, it may well be asked if anyone knows what a toxalbumen is, and the exact effect on the human organism? This no one knows at present, and it is not always apparent that the term is more than a cloak for ignorance, or to cover a theory that there must be some toxic product from bacteria in the albuminous elements of the blood to cause specific disease. For our purpose, then, the tubercle bacillus, *per se*, can act only as a foreign body.

If, before the appearance of tubercle bacilli in this disease, there be a condition upon which the causation depends (and there seems to be

no doubt that this is the case) a short consideration of the anatomical and physiological relations of the circulation will, I believe, demonstrate how such condition may arise, and of what it must necessarily consist.

Hardly an autopsy is made without it is seen that sometime during the life of the subject tubercles had been present in the lung, or in other tissues of the body, which tubercles had resolved, or had been discharged. We know that to obtain cicatricial repair of lung tissue, a suppurative process must have coexisted, and that suppuration never takes place where there is not interference with, or stasis of the circulation of a part involved. In other words, there is a loss of normal correlation between the supply of arterial blood, carrying oxygen and nutrition to the part, and the venous blood, bearing away the carbonic acid gas and waste tissue elements. The waste is carried by the circulation to the several organs in the animal economy best calculated to excrete it, and the venous blood becomes reoxidized in the lungs, losing its carbon dioxide.

Essentially, then, perfect tissue repair is one with perfect circulation, and, conversely, any stasis to the circulation prevents perfect repair. Especially is this true of either venous or lymphatic stasis.

Any suppurative action must have origin in an obstruction to circulation in the part affected, and resolution occurring during any stage depends on the re-establishing of normal correlation in the entire circulation of such diseased tissue. Abscess formation is nature's way of ridding tissues of abnormal waste when the circulation is impeded.

But circulation in the animal system is a complex phenomenon, physiologically of two kinds, afferent and efferent; anatomically of three kinds, arterial, which is superabundantly generous for nutrition; venous, which is inadequate for the removal of all the excess; lymphatic, which supplements the office of the veins in removing waste. A vigorously acting lymphatic system precludes danger from tissue stasis in rapidly wasting parts, while inactivity of the

system implies obstruction from stasis.

This point was admirably illustrated by the eminent oral surgeon, Dr. James E. Garretson, several years back, in a paper read before the Pathological Society of Philadelphia, but which has never been published to my knowledge. The illustration draws attention to a circle, as representing a part, or every part of the human body, in the continuous process of building and razing. Material is brought to it. Rubbish is to be taken away. Debris calls for the work of the scavenger acting as supernumerary to the removal of rubbish. These bringers and takers are the arteries, veins and lymphatics. The first brings material; brings it in excess. The second carries away the excess; carries away the rubbish as well. The third cleans up generally.

It is this third factor in the circulation that most concerns us in the etiology of tuberculosis, and a brief consideration of the functions of the lymphatic system will aid in the clear understanding of their relation to the causation of disease.

First, inquiry as to the relation of the lymphatics with the secretory system of glands develops the fact that both the conglobate and racemose varieties have identical offices of excremental and recremental signification. The lymphatic system, therefore, must be one whose functions imply the taking of material from a relation with parts that do not need it, and placing it in relation with parts that do; i. e., the lymphatics take care of excess of nutritious elements and return them to the general circulation.

We may logically distinguish the lacteals and lymphatics as belonging to different systems. It is true that both characters of vessels hold pabulum, a fact which does not argue against the lymphatic as being a system, the office of which is purely emunctory; for the pabulum found in these vessels, that is not excreta in the strict sense, is so in significance, being an excess of nutritional material which would speedily assume the form of an irritant were it

not removed to a new situation; as implied in its restoration to the general circulation.

The lymphatic system, then, excluded from the lacteals, being accepted as primal emunctory organs, it must follow that glands like the pancreas, liver, kidneys, etc., must be considered as secondary, or excremental emunctories.

Bile, urine, perspiration and the secretion of all the other excrementitious glands (as physiological meaning is given the word excrement) are phenomena of the blood, and are dependent on tissue metamorphoses. Tissue metamorphoses ceasing, secondary secretion ceases also, and death ensues. Tissue metamorphoses ceases to be physiological in proportion as the lymphatic system becomes pathological; that is, tissue metamorphoses is not an act in relation with racemose glands.

Reverting to our first corollary, that perfect tissue repair is one with perfect circulation, it is now seen that perfect health is identical with perfect excretory function, or, in other words, with perfect elimination.

Again, considering our converse proposition, we may now also see how default in lymphatic action is the starting point out of which may arise many phenomena of disease.

The pathological phenomena of tubercle, relating to the gray or granular and the yellow or caseous matter, is familiar to all; but what is tubercle, and whence does it come?

It is to be argued that primarily tubercle is a thing having no objective nature, in the sense that the poison of a rattlesnake, introduced through a bite to the system, is a thing possessed of objectivity. Neither can it be similarly said of the tubercle bacillus. Tubercle, if not objective, must be a subjective condition, the subjective lying primarily with a perversion of the lymphatic system.

The acceptance of these last two propositions brings us to another corollary, viz., tuberculosis is not a disease, but a symptom—a symptom of lymphatic disturbance or stasis.

For the proving of the above prop-

osition let us consider scrofulosis, struma and lymphoma.

I am aware that there are those who refuse to believe scrofulosis to be identical with tuberculosis, but that they draw the line of demarkation too finely, and that both terms are synonymous with the same condition I trust we shall see hereafter.

Scrofulosis, all will agree, divides its expression into two forms—surgical and medical—or lymphoma and struma. By the term lymphoma is meant a tumor of a lymphatic gland, hypertrophied by reason of interference with its efferent circulation. All such tumors sooner or later express interference with lymphatic circulation by the effusion of lymph into the surrounding tissues. A lymphoma is scrofula localized. Struma implies torpidity of the lymphatic circulation at large, and is scrofula generalized.

A scrofulous patient is full of obstructions. Abscess is nature's method of clearing up such obstructions. The obstructions exist because there is no capable lymphatic system to remove them. Lymphatic abscess is a symptom of struma.

Tubercle is first met with where lymphoma or lymphangitis has altered the correlative relations of the lymphatic system, and its meaning is that obstruction exists. Tubercle is, therefore, dependent on lymphatic stasis, for without such we never get tubercle. Tubercle is a symptom of tuberculosis.

It will now, I trust, become evident why scrofulosis and tuberculosis are identical. They are both symptoms of the same lymphatic condition.

Reference to the anatomy of the lymphatic system, as this is of relation to the lungs, shows the former to be delicate in character and much exposed. Beginning with the terminal radicals, the lymphatics accompany the blood vessels until terminating in the bronchial glands at the root of the lung; the efferent vessels from the latter traverse the tracheal and esophageal glands before emptying themselves into the general circulation. The bronchial glands are in a state of change from

youth to old age, consequently are in a state of susceptibility. Calcareous degeneration is not uncommon in them. Obstruction in a bronchial lymphatic implies obstruction in lung metamorphoses. Here, then, we arrive at the point of scrofulosis productive of tubercle; whether the production shall be caseous or miliary may be assumed to depend on the catalytic influences as excited on epithelial or on alveolar structures, or possibly on the state of the system at large.

(To be Continued.)

HYPNOTISM.

TRANSLATED BY ADOLPH MEYER, M.D.
M. D., CHICAGO, ILL.

Hypnotism is a little out of fashion at present. It has lost the fascination of a new thing. All the better for it and for us. Periods of enthusiasm are, generally, the spreading of a new information; the good which is in the facts has, as a rule, had a slow growth; it is suddenly wrapped up in sensational style, and frequently lost in it. The enthusiasm is followed by relaxation and frequently disappointment of the tumultuous elements, and the same quiet observers that originally gave the subject a sound foundation are again allowed to work quietly until a new wave of enthusiasm comes.

Medicine has seen too many of these waves, so many, that it suffered much in the eyes of the non-medical world. This danger is probably nowhere more imminent than in the use of a method that has been the privilege of charlatans for a very long period.

The movement roused over the work of Braid, in England, had subsided when Charcot and his friends began to make their observations on hysterical patients. For some time the medical literature understood by hypnotism the observations made on hysterical individuals. The data of Charcot were based on experiments on a very limited number of pure cases of hysteria, with the characteristic stigmata; as such, they are highly appreciated and important observations. The danger for the posi-

tion of Charcot lies in the fact that he was inclined to look at hysteria as the basis for his findings—which was quite correct—and at hypnotism, as shown by charlatans, as a process identical with his own observations—experiments on hysterical, or at least neurotic individuals—a generalization without foundation.

Before and about the same time as Charcot, a physician at Nancy had been practicing hypnotic suggestions extensively among his patients. A little book of his, on the influence of the mind over physical conditions, published 1866, had been completely forgotten. Bernheim, Professor of Medicine at the Nancy University, took up the matter and explained the phenomena as the product of suggestions, and thus opened the field for a long series of fruitful observations, taking hypnotism out of the curiosity shop and attempting to utilize it rationally for therapeutic purposes. Bernheim's work on suggestion, translated by the well-known New York neurologist, Dr. Herter, brought more satisfactory explanation of all the queer stories told of hypnotism than could be derived from the purely clinical observations made by Charcot on a few especially trained hysterical women, or the discreditable shows of Dr. Luys.

Those among you who knew Charcot will say with me that his attitude towards Nancy was not surprising. His feeling against it, however, has been exaggerated by both his pupils and friends, and by his adversaries. He was careful enough to differentiate between grand hypnotism, that form which he had observed in hysteria, and between the "petit hypnotism de Nancy." Nobody will doubt the truth of his statement that his hypnotism is not quite identical with the hypnotism by suggestion to normal individuals; he is dealing largely with cases of autosuggestion on hysterical basis. Bernheim and his followers avoid this autosuggestion, and substitute it by systematically chosen suggestions of the hypnotiseur.

It need not surprise, either, that Charcot was somewhat irritated over the fact that he had attributed so

much unwarranted importance to the magnet for the transfer of anesthetic and motor symptoms, to the technicality of hypnotizing, the passes, etc., which now were put on a readily explained, no longer mysterious basis.

The school of Nancy is partly to be blamed for the unsatisfactory dispute that followed. It was justified in saying that the methods used by Braid, Charcot and Luys were not rational and misleading, that the result could only be satisfactorily explained by mental suggestion.

But it went too far in submitting the idea that the suggestion could produce in every healthy individual the same symptoms that Charcot described in his hysterical women. This is, of course, an exaggeration, made too prominent by the enemies of Nancy, but due to a lack of explicit statements. I do not feel convinced of the fact that all the symptoms of Charcot's grand hypnotism have ever been produced by suggestion in individuals that were free from all suspicion of hysteria. To claim this is carrying the dispute into a field where authority and reputation will always triumph over plain reasoning; and this is what happened; the world-wide reputation of Charcot and the enthusiastic, and, I might almost say, blind admiration of his pupils to their unique teacher, procured the Salpetriere the appearance of a victory. All this, merely because the School of Nancy had been too affirmative.

In the meanwhile, the practical working was not neglected over the theoretical disputes by the Nancy School; Bernheim, Forel, Wetterstrand, Ringier, Schrenck-Notzing, Hitzig, v. Krafft-Ebing, and many others, tested the use of suggestions as a rational therapeutic agent, and arrived at fairly uniform results.

The results may be summed up as follows:

Suggestion is a very important factor in the treatment of disease with evident or disguised mental factors. Suggestion accounts for the success of many methods in the hands of certain physicians who believe in their methods, when the

eternally hesitating skeptic is bound to fail.

In many cases, it is desirable to produce first a condition of increased suggestibility, such as given by the hypnosis or petit hypnotism.

Petit hypnotism can be obtained in nearly all children, and a varying percentage of adults, varying according to the ability of the hypnotiseur, to the condition of the surroundings and the mental attitude of the patient.

In a statistics of 8705 cases, of various physicians, and of different nations, 519, or 6 per cent., were refractory; 2557, or 29 per cent., showed somnolence; 4316, or 49 per cent., showed hypotaxis; 1313, or 15 per cent., somnambulism.

The curative effect is greater in deep hypnotism, but deep hypnotism is not a condition, but merely a help for the suggestion.

Chronic mental disorders, as delusions of paranoia, the excessive auto-suggestibility of hysteria, mental disorders, with deterioration or suspension of attention and intellect are unfavorable to treatment by suggestion.

All disorders in which the mental attitude is known to be an important factor make a favorable field for suggestive treatment, such as:

Neuralgia and fleeting pains, not depending on a deep organic cause—certain headaches, toothache, sciatic pains—sleeplessness, functional paralysis or contraction, disorders of menstruation, nervous disorders of the digestive tract, chlorosis, alcoholism and other habits, stammering and hysterical affections, etc.

This imperfect list does not mean to be complete, nor does it mean that all these disorders should always be treated by hypnotism. The discretion of the physician is a quality that must be as much exercised with hypnotism as with drugs, if not more.

The results of the treatment depend largely on the qualification of the physician. There are things about persuasiveness and power of fascination that a physician cannot get at school, and frequently never acquires. Lack of success may er-

roneously be attributed, not to the hypnotiseur, but to the principle.

The results obtained vary considerably for this very reason. Hypnotism can work what the public are pleased to call miracles, or it can be a failure. All depends on the commanding power of suggestion, just as so many things do in ordinary life, without hypnotism, if not more so. I have seen Charcot demonstrate a hypnotized hysterical girl with a contracture of the arm, saying to the audience: "You see that the contracture has completely disappeared, because she is hypnotized. I will awake her, and you will see that the contracture returns. Hypnotism has little effect on these cases." Anyone who knows how suggestible a hypnotized hysterical girl is can expect the result of such a remark, even when it was made in a somewhat subdued tone. I have not seen, anywhere, among men trained in the idea of the Nancy School, hypnotism used in such a haphazard and unrational way as at the Salpetriere, and that is one place where the poor results are obtained.

The School of Nancy has been taken to task for reporting cures where a diagnosis was not distinctly made. A paper of Babinski, published in English, in the Journal for Nervous and Mental Diseases, 1892, contains much justified criticism in this respect. There is, indeed, a great danger for accuracy in diagnosis in every symptomatic treatment, and this should be recognized by those using hypnotism. Every physician has had patients coming to get a prescription of a laxative, thinking that their own little story was all the physician should know to feel justified to give such a prescription. The same thing will occur when a patient wants to be hypnotized. In his own mind, he is so certain of what disorder is to be remedied that the physician is not supposed to enter upon a full examination. The physician who is weak enough to yield is to be blamed, but the importance of laxatives remains the same, and so does the importance of hypnotism.

Let us suppose further that a phy-

sician comes to be acquainted with your method in hypnotism, as is done in the Clinique of Nancy. Bernheim is supposed to demonstrate as much of it as possible. But there is no doubt that his selection of cases is less scrupulous because he is obliged to hypnotize for the sake of hypnotizing rather than for the sake of curing. Statistics from his Clinique must, therefore, be taken with precaution.

To judge from my personal experience in Switzerland, and from the experience of Forel, Wetterstrand, Ringier, Loyd, Tucky, Robertson, etc., hypnotism, properly restricted to a limited number of cases, is a great and welcome addition to therapeutics. It depends, however, on so many personal qualities that it is apt to suffer as much through inexperience and assuming friends as through its alleged enemies.

Only a few words about the danger of hypnotism. Whereas I do not know of any bad results having come from the hypnotism by systematic and rational suggestion for therapeutic reasons, I do believe that public shows, with methods that do not exclude autosuggestion, and hypnotism practiced by untrained individuals may do harm. But it is very interesting to notice that even in public shows, there are more people dangerously affected in the audience than through being hypnotized. I know of girls going into hysterics after attending a public show for which their brains were not strong enough, but so far as I know, only of about two instances, when hypnotism, practiced by mountebanks, had its legitimate evil result on the mesmerized. Of bad effects in the hands of well-trained physicians, when used for therapeutic purposes, I know nothing.

When Baird practiced his irrational method in England, insanity was said to increase. It was the time when the increase of insanity was observed in countries that did not stand under hypnotic influences.

Stories are very apt to creep into a subject which was the delight of the spiritualist before Bernheim took away the flavor of the mysterious.

Stories of the dangers are generally theoretical constructions. When the question arose 50 years ago to introduce railroads into Germany, the medical faculty of one of the German universities made a statement that it would be in the interests of the common welfare to shut out such an enterprise; the slow nerves of the people would not stand such rapid movement, etc. To-day, the true story sounds so bad that nobody can afford to name the wise faculty. The same will be the case with hypnotism. Everybody who dislikes sensation will have a natural antipathy against its use; but it is remarkable to see how its bitter enemies are gradually taking interest in what is good in it. Used for therapeutical purposes, it will have its place; for show and for encouraging epidemics among children and in society, it will deserve and obtain due restrictions. None of us would care to see experiments made with alcohol or other drugs, purely to amuse society with the signs of intoxication in the victims.

RULES FOR GUIDANCE IN ELECTRIC ACCIDENTS.

Dr. W. S. Hedley.—1. Break the circuit at once if there be an interrupter close at hand and you know how to use it. If not, lose no time, but proceed to Rule 2. 2. Do not touch the man's body with your bare hands, but if India rubber gloves are not at hand pull him off the cable by his coat tail, or fold your coat or some dry article into two or three thicknesses, and, using this as a pad to take hold of the body, pull it away from the circuit and resort to Rule 5. 3. If unable to get him off, raise with covered hand that part of the body which is touching the earth, or one of the poles of the circuit. This will break the circuit, and it will usually be thus possible to get him easily away, and, if so, proceed to Rule 5. 4. If still unsuccessful, make another pad, and, placing it between the ground and that part of the body in contact with the ground, continue your efforts to detach him. 5. Having pulled him away from the

cable, free his neck from clothing, and treat the case as one of drowning, one method being as follows: 6. Open his mouth, and, taking hold of the front part of the tongue with your fingers (covered with a handkerchief if you have one), draw the tongue forwards, and gradually let it go back 16 times a minute. Be sure that the root of the tongue is acted upon and drawn forward. If the teeth are clenched and you cannot get them apart with your fingers, gently tinuous red line parellel with it. separate them with the handle of a pocket knife or by a small piece of wood, cork, etc. 7. Resist the efforts of the bystanders to pour stimulants down his throat.—The Lancet.

THE REMOVAL OF LARGE LYMPHOMATOUS TUMORS.

An operation was conducted at the Medico-Chirurgical Hospital, on Saturday, December 9, by Professor J. E. Garretson which was of such a character as to require its division into three parts with an interval of a week between. The result was very satisfactory.

The patient was a professional gentleman from the Western part of the State, and the lesion consisted in an aggregation of lymphomatous tumors which formed a mass that extended from the chin along the base of the lower jaw, outward to the ears of both sides, and downward to sternum and clavicles.

The dissection required for removal of the growth compelled taking away both submaxillary glands and demanded to be carried around and under the cartoid arteries, jugular veins and pneumogastric nerves of either side. Both the larynx and trachea were bared. The mass was more or less conglomerated, and had formed attachments where this seemed possible.

It is not easy to imagine a more formidable operation or one that affords more marked illustration of the possibilities of modern surgery.

At the date of this issue, more than three weeks after the last operation, the patient is up and daily walking about the hospital.

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MICRO-ORGANISMS IN DISEASE.

The article beginning in this week's issue, and which will continue for several succeeding issues until completed, entitled, 'A Practical Theory and Treatment of Pulmonary Tuberculosis,' brings us to the consideration of micro-organisms in disease.

Bacteria, as causative agents of maladies, have been the subject of much investigation during the past decade. The efforts of bacteriologists to show that in these micro-organisms alone reside the power for developing specific forms of disease have apparently resulted both pro and con. Taking as a status the results showing that certain germs develop an inflammatory disease, such as diphtheria, what shall we say of the results which have been obtained from experiments, equally honest, disproving the statement?

Is the evidence for to be preferred to the evidence con, or, are both to have due consideration?

We must acknowledge that germs,

such as are found in disease, are resident in many media outside the human body, and that they are received into the latter without apparent harm to the individual.

We also know that these same germs are found in the blood, generally or locally, in various forms of disease; but is this any reason that we should forsake all primary conditions, such as exposure to atmospheric changes of temperature or pathological alterations, arising from nervous irritations, in the universal rush after a specific germ the development of which necessarily depends on the formation of a favorable medium in the blood, or tissues, by pathological changes?

That bacteria exert influence by their presence as foreign bodies in the blood must be evident. They must hold the same relative position with the living cells that other waste material does; but, that they are primary causative factors in disease is not evident, inasmuch as their retention by the human system implies lack of ability in excretory function, and the latter, in turn, must be due to congenital or acquired pathological change.

The human body is a chemical organism, and its vitalizing fluid is more or less affected by chemical irregularities. Perfect chemical relation implies health, or ease (comfort). A chemical irregularity, if it affect the blood, implies the opposite, or negative of ease, i. e., disease. This is readily observed on entering crowded apartments where oxygen is deficient and carbon dioxide is in excess. Is it not rational, then, to assume that the cause of epidemic disease is quite as likely to be found in the chemical composition of atmospheric gases as resident with micro-organisms?

This would lead to a consideration of what effects, if any, different planets might have on the atmospheric conditions of the earth—a study in climatology.

Altered chemical relation will undoubtedly bring altered chemical composition, and this, in turn, affects such structures of the human organism as are most susceptible to

the changed condition; for, why should the micro-organism called pneumococcus, circulating in the entire blood current, cause inflammatory changes in only a single lobe of the lung?

If we are to consider, in this connection, the contagiousness of certain diseases, as being dependent on specific micro-organisms, may we inquire why it is that such diseases as scarlet fever, whooping-cough, measles, etc., which usually occur only once during a lifetime, and afterwards render the individual immune from such disease, has no germ that has absolutely been demonstrable as specific? Is it not as plausible to suppose that this class of diseases may be contagious by the inhalation of gaseous elements, which produce changes in the chemical composition of the blood peculiar to themselves? We know that their symptomatic phenomena are resident, for the most part, in the skin and mucous membranes, excretory organs (as physiological meaning is given the word excrement); and, whatever the cause, the inflammatory change does not take place until the final excretory channels have been reached.

Again, can it be more than an altered chemical relation that may not even be appreciable in an analysis, which renders the blood exempt from the influence or contagiousness of these diseases after they have once acted in the individual?

As illustrative of this point, we know that certain chemical reaction takes place where one element is added to another; adding more of the reagent does not affect the reaction, which, in making the new chemical compound, divided itself into two expressions, one of which may be considered as waste.

What, then, can we expect from so called anti-toxines? The results of diphtheria antitoxine, manufactured, as it is, from the serum of the horse, has so far shown some beneficial influence on diphtheria. Now we know that the horse is not especially prone to suffer from diphtheritic (fibrinous) inflammations; that is to say, the animal may be considered as being immune from diphtheria. Diphtheria

is one of those diseases which may occur at any time during the life of a human being, irrespective of its prior existence in the same individual, and, for this reason, cannot be classed in the category with such diseases as scarlet fever. Diphtheria bacilli are found where there are favorable media for their growth. Horse serum rarely presents such a medium, but even when injected into the human system apparently exerts counter-acting influence over the fibrinous form of inflammation rather than over the bacterium itself; hence, we should ascertain what the action of the antitoxine is on fibrin formation, than to suppose it is an antidote to a toxine of the diphtheria bacillus.

Let us turn once again to study the underlying causes of disease as represented by chemical action; influenced by air, food and environments, recognizing the true value of all agents which may combine for the production and continuance of disease.

THE TIMES AND REGISTER FOR 1895.

Beginning with this issue of The Times and Register, we are pleased to present to our readers a much-improved weekly medical journal, on the same principles which have governed us the year past; i. e., scientific material, beneficial and interesting reading, combined with the latest news which pertains to medical affairs, and all at a popular price.

The success with which we have met in the past year has warranted our enlarging this journal four pages, and giving our readers a clearer type, all of which adds to our expense.

We have added to this volume the subject of philosophy, under the charge of Dr. Henry Burchard, of Philadelphia, a most excellent writer and deep thinker.

We have promised us many original articles of scientific value, which will be worth to our subscribers much more than the whole year's subscription price.

What we would ask of our subscribers, who feel interested to help us during the year, is their hearty co-

operation in contributing to our various scientific departments from time to time such material as may be of practical benefit to the general practitioner.

It may not be generally known, that if a subscriber takes interest enough in the journal he receives to look through the advertising columns occasionally, and, if in need of anything, to write the advertiser, mentioning the journal through whose instrumentality he may have been placed in communication with the manufacturer, he helps the journal to keep up its undertakings. Advertisers generally keep track of the medium through which a query comes to them; hence, it is in the power of any subscriber to materially aid a journal in this manner, even though he only write for information.

Therefore, The Times and Register wishes its subscribers a Happy and Prosperous New Year, trusting that we may be of mutual benefit to the progress of scientific medicine during 1895.

THE PAY OF PHYSICIANS.

Dr. George Shrady, the talented editor of the "Medical Record," has entered the lists of lay journalists, and among the first productions of his pen in this role we find him gauging the fees of New York and other physicians; but the Doctor betrays his weakness in mathematical calculations when he essays to compute the incomes of practitioners in medicine in New York.

We are told that there are four practitioners in New York who make \$100,000 a year, and something more than twice that number who make \$50,000.

Who are they?

The late great Austin Flint, no better than whom was known in his time in New York, who had a large and high-priced consultation practice, constant revenues from his college connections, as professor, and instructor to private classes; who wielded a ceaseless pen, and derived some percentage from his text books, all of which had a considerable sale, we now learn, through Courts, on the

death of his widow, left the small fortune of \$60,000.

We should like to know of many New York medical millionaires, but who ever heard of one?

It is true that the late Dr. Willard Parker left something like \$500,000, but it was well known that he was a bold speculator in anything that paid; besides, it was said that he got the first financial start by his wife, who was reputed to be wealthy by inheritance.

News comes to us lately that one of New York's best-known surgeons has been quietly pressing forward for the position of Port Physician to succeed ex-Boss Croker's brother-in-law, Dr. Jenkins, a place which pays the munificent salary of \$10,000 per year, and requires of the practitioner who takes it, the giving up of his practice, if he had any, and restricts himself solely to its duties.

We are informed from reliable sources that the illustrious Senn booked \$98,000 last year, though how much cash was realized in this is not stated.

No, it requires thousand, and five thousand-dollar cases to roll up such sums, and these, in New York, are becoming less to any one practitioner each year, as there is less material coming in from neighboring States than formerly, and for the further reason that the number of consultants and specialists has vastly enlarged.

Probably \$25,000 a year for the *creme de la creme* would be nearer the mark, and these, without doubt, can be conveniently counted on the fingers of the hand.

We are glad to hear of the appointment of Dr. W. B. Rogers, of Memphis, as dean of the faculty of the Memphis Hospital Medical College, vice Professor F. L. Sim, deceased.

The modern novel gets a good word from The London Spectator as a sedative for the brain worker, the man who cannot rest while doing nothing and whom the novel interests without exciting or fatiguing.—Northwestern Lancet.

Philosophy.

DR. HENRY BURCHARD, Philadelphia.
COLLABORATOR.

AN ASPECT OF SPECIAL PROVIDENCE.

I let a house and garden to an impoverished preacher with view to helping him along by boarding out the rent. It happened that I had bought the garden of a millionaire bank president, who himself, using wheelbarrow and spade, had produced such richness that slightest tillage of the ground met with response not unjustly to be likened to the famous draught of fishes where a net was put down at the right time and place. Before the tenant came I had ploughed and planted the garden, and it was turned over to him with the single requirement existing of keeping down weeds. That season my garden was a dead failure. Crisp radishes, always before so plentiful, were not found on the morning plates. There were no refreshing salads for dinner. Berries were wanting as absolutely as if the vines had taken up root and decamped. Even the tomato, that most persistent and overwhelming of vegetables, showed but an infrequent specimen. In short, there was nothing—nothing but weeds. My tenant would not hoe, but he made up for the short-coming for invocations and supplications to Providence, with which he favored the sitters about the table. Words were his antithesis to weeds.

One day, utterly weary of the man's shiftlessness, I asked if the intention of the prayers was to wheedle the God into going to the barn for the hoe, as with lack of use of that instrument lay our default as to the things prayed for. The reply was a look absolutely vacant as to understanding. Not discouraged I went on to say that as the garden had given overflowing to the bank president, who, so far as I knew, never prayed, and the same to me, whose prayers were prayers in the sense alone of thank-offerings for the abun-

dant blessings found at command of a hoe, a conclusion forced itself that the God was against him.

The preacher awakened to the situation. "Against me, his servant?" he asked, with the largest of interrogation marks.

"Against something, certainly." I replied, "since whereas formerly there were plenty of vegetables there are now none."

The word was taken up by a farmer who happened to be a diner at the table that day. "You don't have," he said, "if you don't hoe; the something is with the hoe, I guess."

"Do you mean," asked the preacher, "to imply that asking God for blessings is unprofitable?"

"Not exactly that," responded the farmer, "but my own prayers I keep for night, not wasting time on getting out of bed in the morning, having found out long ago that half an hour with a hoe while the dew is on the ground is quite equal to a couple of hours after the sun is up."

"And you trust in the arm of flesh?" asked the preacher.

"In that and the hoe," said the farmer, "for I find that if I don't get up and go at it no weeding gets done. I find, too, something else," he said, "and here my prayers come in. A radish seed and a trifle of ground properly put together bring a radish. The thing is the same as to everything about my farm. Nothing lacks or lags. The matter seems to be for each thing to do its part; the seed to do its part, the ground to do its part, rain to do its part, sun to do its part, me to do my part. Seeing this as I am about the fields all day, I am so overwhelmed by the expressions of goodness and presence of Providence that by the time night comes I have got beyond words. What! expect seed and ground and rain and sun to do their part and I loaf. No, no! I don't come to that."

"What do you mean by loafing," asked the preacher, with an expression that implied dissatisfaction with the drift of the talk.

"To speak plainly and not mince the thing," said the farmer, "I mean praying over short-comings."

The preacher was indignant, and expressed the indignation by rolling his eyes upward. What he said was, "He letteth the tares grow up with the wheat."

"He does, indeed," said the farmer, "but for myself I don't save up for him the trouble of separating the two at harvest time."

"Be careful that you are not saving up damnation for the harvest time."

"What!" replied the farmer, his face flushed with disgust or anger, as the case may be, "damnation for understanding and obeying God as to his laws? damnation for not whining like a boy instead of working like a man? damnation for not begging when plenty needs alone the reaching out of a hand? All right, let me be d——."—Nineteenth Century Sense.

DREAMS.

Dreams are of two kinds. Yet are the kinds related. Illustration of such difference and relation lies with the twitching of the limbs of a sleepy person contrasted with similar movements under direction of will. Both these kinds of movements lie with muscular action resultant of nerve impressions. The first is of strict association with automatic action, which action is independent of direction or egoism, hence is meaningless; legs are thought of, not ego. The latter directs attention to ego, not to limbs.

An ordinary dream has its cru-dites explainable in imperfect instrumentation. A brain half asleep is likable to a piano out of tune. With neither instrument is capability to make proper immediate response. The thoughts of a page being read are thoughts by an ego. As a pen splutters with its user or works easily, thus influencing the appearances of a writing, so expression given thoughts rest with the bad or good working condition of a brain. If attempts be made to write thoughts when a brain is half asleep, result is akin with attempt to play music when piano is out of tune.

Because few people are egotistic to

an extent of independence of ordinary means of instrumentation, the brain is always attempted to be used by ego in its excursionizings during sleep conditions, the sleep affecting the brain but not the ego; hence confusion—things being heard strangely and confusedly by the ears, seen strangely and confusedly by the eyes, touched, tasted and smelled strangely and confusedly by the other half-asleep organs of sense. An ordinary or confused dream never occurs where perfect sleep exists. A brain put sound asleep dismisses instantly the hallucinations of a mania-a-potuist; this for the reason that egotistic activity as here existing is at once rid of perversions lying with instrument. Sound sleep on the part of an ordinary man means stillness of ego by reason of absence of organs, illustration lies with a broken-legged man who ceases to walk out of fault of his limbs.

Ego is assumed as never sleeping. Immortality is one with eternal consciousness. Consciousness, however, may be lacking as to means of expression; hence a tongue asleep ego is temporarily without means for talking, a nose asleep ego is without means of smelling; so alike as to seeing, hearing, touching and tasting. But it is not ego that is asleep.

Now, concerning the dreams of sensitives, the poets, the musicians, the communers with spirits, the architects.

Can a dream be independent? Putting this query in other language, Can ego act disassociated from its brain? If reference be here had to ordinary brain as familiar to the anatomist, the answer of Rosicrucianism is, yes. Surely ego loses its ordinary brain at the moment of so-called death! Not to reply with Rosicrucianism is to relegate man to oblivion. An acorn finds itself one with the massive trunk, the gnarled and wide-spreading limbs, and countless leaves of the oak tree. An acorn drops to the ground minus trunk, limbs, leaves. A dropped acorn is found later on, with hypostates of trunk, limbs, leaves. As in an acorn are the hypostases of its needs, so

with ego are the hypostases of its needs.

Brain is indeed one with paradox. It is more than an arbitrary arrangement that divides the encephalic man in cerebrum, cerebellum, pons varolii and medulla oblongata. No part sleeps but cerebrum. A momentary forgetfulness by the other parts would mean bodily death to a sleeper. Cerebrum is the instrument of ego. The other parts are instruments of organic life; being never wholly, or indeed but little, under direction of ego. Distinction between man as ego and his habitation, or environment, is so plain as to be without confusion to him who understands the distinction between the cerebro-spinal and sympathetic nervous systems.

Dreams that are one with communications made to a sleeping man by a something apart from himself, whatever the something may be, are independent of his cerebrum; for such dreams would not be the plain and perfect things they are if semi-consciousness of the anterior brain existed to confuse them. A dream of the purely inspirational class, that is, a dream which is one with communication made to the ego of a sleeping man by an intelligence apart from his own, is clear as to its character, whatever the character may be; the poet gets his lines, the musician his score, the architect his design, the philosopher his aphorism.

Soul, like to ego, never sleeps, and is most alive to relationship with its divine source when eyes are closed in slumber and ears are shut against external sounds. After such manner of communication is much of what has been given and is being given by the God. The Christian Bible, where not the simple story of history, is recital of dreams.—Nineteenth Century Sense.

THE GARRETSONIAN SOCIETY.

Prof. Garretson will deliver a lecture on Tuesday evening, January 8th, in the amphitheatre of the Medico-Chirurgical College, on the subject of "Spiritualism."

Surgery.

DR. T. H. MANLEY, New York.

COLLABORATOR.

BOINET ON THE TRANSMISSIBILITY OF CANCER FROM MAN TO THE LOWER ANIMAL.

This author, at the Roman International Congress and at the Society of Biology, at Paris, lately has communicated the results of 60 inoculations of cancer from man to animals. The peritoneum of rats, goats and guinea-pigs was inoculated with fragments of cancerous tissue from the mesentary, epithelioma of the lip and anus; schirrus, encephaloid from the kidney, cancer of the stomach and liver, and secondary growths of lympho-sarcoma from the testicle.

Microscopical lesions resulting were of a somewhat complex character. In one case, a rat, which had been infected, a mass of lymphoid tissue as large as a small nut had formed in the mesentary, attended with a free effusion. In the other animals there were various types of inflammatory changes observable. Some showed evidences of purulent pulmonary and hepatic impacts. In all cases there were patches of hyperplasia close to the point of puncture; and invariably the deep lymphatic plexus in the neighborhood of invasion was thickened with the ganglia tumefied, or undergoing central purulent, curious changes.

Histological examination revealed little more than cell production, with the formation of granular, amorphous masses, as we would expect to find in animals inoculated with infected material.

The cutaneous nodules presented peculiar pathologico-anatomical features; the papillae were thin and flattened, with an under stratum of cell formation nearly homogeneous included within the reticulum of which were ectodermic granula.

The cellules in the nodules presented in a high degree an epithelial character. Those were the giant-cells

of the protoplasea, granular and yellow. They formed in numerous zones, traversed by a chain of delicate lymphatic vessels, separated from each other by connective tissue loops.

Now, what was the origin of these cellules? Were they truly malignants, or were they nothing more than inflammatory hyperplasia? On close examination it was found that these bodies had a perfectly typical arrangement and that the element of heterogeniety was absent.

We must therefore conclude that cancer is one of the diseases which cannot be transmitted from man to animals.—*Le Mercredi-Medical*, November 28, 1894.

Notes by Translator.

Boinet's important contribution, though of much interest, yet does nothing more than confirm what has long been well known, viz., that this mysterious scourge which we designate cancer is not a disease which is in any sense contagious from man to animal, or from one of the same genus to another.

With our present definite knowledge on this subject of cancer, though it be of a negative kind, it is about time that the vaporing of theorists on the question of "local infection" (?) finally ceased.—T. H. M.

OPERATIVE TREATMENT FOR OLD, UNUNITED FRACTURES OF THE FEMUR.

By M. Lejars.

The consecutive importance, succeeding non-union of the shaft of the femur after fracture is dependent on: First, imperfect opposition of each of the bones; and second, on the formation of a voluminous hyperostoses which extend around the entire shaft.

This condition existed in the case under consideration.

The patient was a man 47 years old, who entered hospital February last for a deformity of the left hip. This resulted from a fracture more than a year old; there were five centimetres of shortening, with an enormous hump. A projection, pos-

terior-internally to the great trochanter.

On February 25 an operation was performed for the relief of the ununited and now impotent limb. A long curvilinear incision was made posteriorly over the great trochanter. This exposed a large osseous mass, which extended nearly as far upward as the ischial tuberosity and outward to the cotyloid cavity.

This was completely detached with the mallet and chisel. After this having been done it was easy to bring the ends of the fracture through the incision, remove all vegetation, refreshen the ends of the bone and carefully readjust them. Then the wound was closed with suture except at one end, for a wick of iodoform gauze. Union was rapid, and now, seven months since operation, he walks without difficulty, has no limp, uses no cane, and follows his usual occupation for a living.

In conclusion this author recommends that in all cases of fracture of the femur, in which impotence of the limb succeeds, in consequence of non-union or vicious union, the thing to do is to expose to seat of fracture and perform such an osteoplastic operation as will promise the best functional results warns us, however, that we must not lightly undertake this operation, and that age, general condition and surroundings all have an important bearing on the ultimate results.—*Le Mccredi-Medical*, November 14, 1894.

OPERATIONS ON THE MASTOID PROCESS.

In a late issue of the "Northwestern Lancet," Dr. Thomas McDavitt, of St. Paul, Minn., contributes a timely essay on the above subject.

The progress made of late years in the surgical treatment of tubercular diseases of the ear and mastoid has, indeed, been marvelous. This is made all the more clear and convincing when one glances over the pathology of cranial suppuration by the older authors.

Even that eminent observer, Sir Benjamin Brodie, admitted that the causation of hard pus formations

was quite inexplicable to him, and we find in his writings on surgical pathology, when describing a case of intra-cranial abscess, he was entirely at a loss to trace its origin.

Those "running ears" of childhood—how commonly they lay the groundwork of chronic deafness and neuralgia—now are readily and radically remedied by simply tapping the mastoid cells, turning out the foul, inspissated pus and curetting away the residue of necrosed or caries or detritus of bone?

After moderate subsequent antiseptic irrigation, with a few dressings the foul-smelling discharge ceases, all pain vanishes and the chronic sore is healed for all time.

In operating, it is well to remember that the anatomic relations of the jugular fossa are not the same in the child as in adult life.

The French and German surgeons prefer the sharp, beveled osteotome for opening into the mastoid cells; but in the adult, particularly when the inter layers of the apophysis are much thickened and eburnated, a small, strong trephine is the safer and more expeditious for purposes of penetration.

Medicine.

DR. E. W. BING, Chester, Pa.
COLLABORATOR.

VARIOUS FORMS OF SORE-THROAT WITH MEMBRANOUS EXUDATION.

Bacteriology has shown that a large number of cases of sore throat considered as diphtheria are so in appearance only, and now that serum therapy is considered a cure for diphtheria it is more than ever important that the distinction be made early. Chaillon and Martin analyzed 99 cases of sore throat as follows:

Non-diphtheritic cases, 29.

Pure diphtheria, 44.

Diphtheritic sore throat (mixed), 26.

The non-diphtheritic cases did not present the same microbe. In 11 cases was found a coccus, the cultures of which could be easily con-

founded with diphtheritic colonies. The false membranes, although somewhat whiter and more creamy, resembled those of cases of mild diphtheria. They were accompanied also with alenopathy. An important point also was the presence of albumenuria met with in five cases.

In the non-diphtheritic cases the pneumo-coccus was found. The white or yellow staphylococcus four times in a relatively mild case; a microbe resembling the coli bacillus twice, and streptococcus 11 times. All cases showing the streptococcus were severe, recalling for the first few days the signs of a serious diphtheria, but they improved rapidly, and were well in eight or 10 days.

In resume, these 29 cases of apparently diphtheria, in which bacteriology alone could determine the nature, contained five different microbes. All were cured. In six cases there were laryngeal complications, several times coryza and albumenuria.

Inversely a considerable number of cases of sore throat had been, without the bacteriologic examination considered as non-diphtheritic.

There are in fact sore throats due to Loeffler's bacillus which are mild, and others which are grave.

It is here that the presence of albumen, rise of temperature and frequency of pulse, serve as distinguishing signs.

A third group of sore throats is the "mixed" variety, "diphtheritic by association." The most frequently associated germ is the streptococcus, and this is a very grave combination, as in 14 cases 13 died; all presented symptoms of malignant diphtheria. In five other cases the staphylococcus was associated. There were all fatal. In seven other cases a small coccus was associated. These resembled mild diphtheria, and all were cured.

The study of croup furnished the authors with results no less interesting than those of the anginas. They divided the cases into diphtheritic and non-diphtheritic croup.

It is important to know that the case is not of diphtheritic nature. These cases are relatively few: if well

treated they generally get well, but if put into diphtheria wards after tracheotomy, they are exposed to Loeffler's bacillus, and if not diphtheritic at first usually become so. The same associations prevail as in sore throat.

Bacteriological diagnosis is therefore necessary in croup as in diphtheria.—*Revue Medicale*.

THE ACTION OF CHLOROFORM ON THE HEART.

Dr. A. Guerin (Paris).—Death from interference with the action of the heart may be avoided in chloroformization, the only requirement being that the anesthetic agent must be inhaled exclusively through the mouth. When death occurs from stoppage of the heart the cardiac muscular fibres cease to contract under the influence of a reflex action exerted by the nasal nerves on the pneumogastic, stimulating the inhibitory power of the latter on the heart. If a rabbit is subjected to tracheotomy and then made to inhale chloroform directly through the trachea, the drug has no effect whatever on the heart. On the contrary, when the chloroform is held before the nose of the rabbit the heart immediately stops. The trachea being cut transversely, it is obvious that the chloroform inhaled by the nostrils cannot reach the heart through the bronchi. It is, therefore, proved conclusively that the anesthetic agent exerts its injurious action on the movements of the heart through the intervention of the nasal nerves and the cardiac branches of the pneumogastric, the former reacting reflexly on the latter.

In the administration of chloroform it is, therefore, of the utmost importance to prevent the action of its emanations on the nasal cavities. With this object in view, the precaution should be taken of pinching the nose of the patient between the fingers of the hand, which holds the cloth, until general anesthesia is produced, when there can be no longer any reflex action of the nasal mucous membrane, anesthetized like the rest of the body.

INFLUENCE OF MASSAGE ON THE NUTRITION IN HEALTHY INDIVIDUALS.—BENDIX.

General massage always increases the amount of urine and the elimination of nitrogen. It is more considerable at the beginning of the treatment than later on. If omitted for some days treatment has to be continued for two or three days before any effect is seen.

In children after a week's massage the fatty matter of the feces diminishes by one-third. Intestinal absorption is increased, and the nitrogenous matters of the feces increase by 18 per cent.

Bendix thinks the treatment would be serviceable in chronic liver and kidney affections by promoting the absorption of fluids in dropsical conditions.—Rev. de Therap. Med. Chir.

TREATMENT OF PYROSIS.

Substitute beer for wine. Prescribe starchy food—milk—infusions of the simple bitters, mineral waters are to be given and before one of the daily meals the patient should take magnesia 15 grs., rhubarb and canula each five grains—or, before each meal, a powder compound of bismuth, charcoal and magnesia.

Salicylate of bismuth with charcoal is of great use in flatulency, especially in children.

Ophthalmology.

DR J. A. TENNEY, Boston, Mass.
COLLABORATOR.

ELECTRICITY IN OCULAR HEMORRHAGE.

For some time electricity has been considered a valuable remedy against epistaxis and other passive hemorrhages. Dr. Frankhauser, of Reading, Pa., in an article in the American Journal of Ophthalmology, gives his experience in the treatment of intraocular hemorrhages and vitreous opacities by electricity, and gives it as his opinion that galvanism promises better results in these cases than any other form of treatment.

His method of applying the electricity is to apply the glass eye bath filled with warm water over the affected eye, to which is attached the negative pole of the battery. The positive was applied by a sponge electrode to the cervical region of the spine, or the temporal region. A current of from one to five milliamperes was passed from five to ten minutes at a sitting. The sittings were from two to three a week.

A young machinist had an explosion in his pipe while smoking, probably from carrying a cap for a dynamite cartridge in his pocket with his tobacco. His left eye was cut through the upper lid, about midway between the inner and outer canthus, making an incision posterior to the corneosclerotic junction of three-eighths of an inch in length, which was followed by extensive hemorrhage from the wound into the posterior chamber.

When a strong light was reflected into his eye, he had no light perception. The anterior chamber was free from hemorrhage. He was treated more than four months with potassium iodide, jaborandi, mercury, blisters and tonics, without any result. He then commenced to use galvanism. After four weeks of treatment he could tell light from darkness, and soon after a part of the retinal reflex could be detected with the ophthalmoscope. In two months he could see the light, and in a year his vision was 10-xx.

Another case had retinal hemorrhage, probably from diabetes. After some exertion he found one day that he could not see light with one eye. The vitreous was cloudy, giving a faint reflex with the ophthalmoscope. Under general treatment, the cloudiness was partially remedied in three months. He then had an attack in the other eye, almost as bad as the first. The second eye cleared fairly well, but the hemorrhages recurred in both eyes during the year. As one eye would improve, the other would get worse. After a year's treatment, directed to the diabetes and the general health, galvanism was tried for both eyes once a week. In a short time both eyes cleared to 15-xx. In a few months another hemorrhage oc-

curred in the first eye, shutting out all light. The galvanic current was continued once a week, the patient living at a distance, and so making it inconvenient to see him oftener.

In two months the vision had markedly improved, and has held its own ever since. No hemorrhage has occurred for more than a year. Earlier the slightest exertion would bring on a hemorrhage; now he can do light work on a farm, and his vision appears to be improving.

QUININE AMAUROSIS.

Some time ago Dr. De Schweinitz gave quinine hypodermatically to dogs, in quantities of from one to four grains to the pound, with the result of producing blindness in from three to 14 hours. The effect of the drug was obtained more readily by administering the bismuriate of quinine with the carbamide of urea. The symptoms of vomiting, staggering, and convulsions attended the blindness, with two exceptions; in these there were no symptoms attending the blindness.

The ophthalmoscopic picture was similar in every case to that in the human subject. The pupils in all cases were immovably dilated. In one case there was thrombosis of the central vein. Examination with the microscope showed that toxic doses of quinine could produce thrombosis of the central vein, and that neither neuritis nor atrophy, in the true sense of the word, was present in the animal longest blind (nearly a month), but that there appeared to be a species of edema between the optic nerve and chiasm.

Dr. Schweinitz then undertook additional experiments to settle four points:

1. Whether blindness could be produced in dogs by other salts than those used.
2. Whether the prolongation of quinine amaurosis would produce true atrophy.
3. Whether the production of thrombosis or embolism is to be expected in severe cases.
4. Whether the apparent degeneration of the cells of the cuneus

found in the first experiments was the result of the hardening process, or due to true lesion from the drug.

His subsequent experiments showed that blindness could be produced effectively by other salts of quinine, dissolved with the aid of tartaric acid or dilute hydrochloric acid.

In regard to the second proposition he proved by microscopic examination that prolonged quinine blindness caused a true atrophy of the optic nerve, chiasm and tracts.

In regard to the third proposition it was shown that thrombosis of the central vessels may be expected in severe cases.

He found, however, that the degeneration of the cells of the cuneus was due to the hardening process and not to the drug.

From the study of this subject the following conclusions may be drawn:

1. Quinine in toxic doses may produce blindness.
2. The toxic dose is distinctly indeterminate.
3. The duration of the amaurosis varies largely.
4. The field of vision remains contracted.
5. Central vision usually returns to the normal.
6. There is color blindness at first; the color perception is ultimately within the central field.
7. The ophthalmoscopic picture is that of white atrophy.
8. Experiments on dogs show that there is atrophy of the entire optic tract.
9. The same experiments show that the cells of the cuneus are probably not affected.
10. Treatment is of no avail.—Dr. John Herbert Claiborne, in New York Medical Journal.

CATARACT EXTRACTION AN OFFICE OPERATION.

Dr. J. W. C. Love, of Mexico, in an article in the *Ophthalmic Record* reports that he has performed cataract operations in the office mostly for more than 12 years. He places the patient in a straight-backed chair facing the light, has the pupil well dilated with atropine, and

the cornea rendered insensitive with cocaine. He inserts a speculum between the lids, and makes an incision more obliquely than the one usually made, claiming that the eye is not so readily injured by the motion of the upper lid, if it comes in the direction of the line of incision. In passing the knife through the eye he dips it into the anterior capsule of the lens, cutting it away as far as practicable, bringing the knife out through the sclerotic in the inferior inner quadrant of the eye. He never performs iridectomy unless there are irritic adhesions, and puts no instrument into the eye except the cataract knife, as a rule. If cortical matter is left behind he washes it out by means of a medicine dropper and a solution of boric acid.

He does not allow the patient to use one eye after the operation, but puts on a bandage over both eyes so securely that the friends will not attempt to interfere with it. He does not tell us how long he subjects the patient to this bandage. It will occur to the specialist that he takes less care at the beginning and more at the end than that taken by many operators.—J. A. T.

COMPLETE TENOTOMIES FOR HETEROPHORIA.

Dr. Stevens, of New York, read a paper before the section of ophthalmology at the meeting of the British Medical Association held at Bristol last summer, in which he stated that complete tenotomies should never be performed in any form of heterophoria, and that they were rarely admissible even in cases of strabismus.

The writer has on several occasions performed complete tenotomies in high degrees of heterophoria, which were followed by the very happiest results. One man complained that if he arranged the goods upon the shelves of his store for an hour he would be obliged to go home with a headache. It was found that he had 18 degrees of esophoria. Both internal recti were severed, without cutting the capsule of Tenon laterally. He was told that his head symp-

toms ought to be relieved a good deal in a year. He said he was much better in three months. The operation was performed three years ago; and the muscles show a perfect balance at the present time.

A case of exophoria of 27 degrees was cured by severing the externi. The patient was tormented to that extent that reading and study were nearly an impossibility. The operations gave the most complete relief; and since they were performed, three years ago, the writer has had to acknowledge a considerable number of patients from this one's recommendation.

A partial tenotomy, in the writer's experience, will remedy three or four degrees of heterophoria. A complete tenotomy will relieve to the extent of from nine to 15 degrees. It is not very rare to find cases where the heterophoria amounts to 15 or 20 degrees.

Gymnastic exercises by means of prisms will modify reflex symptoms in low degrees of muscle trouble; but in the writer's experience these exercises rarely change the measurements of heterophoria. Perhaps it enough to relieve the symptoms.

It is well known that in many cases of insufficiency of the interni no operations performed upon the externi will do any good. The internal recti have no power to converge the eyes. In such cases the patient must go without help, or some form of advancement of the internal rectus must be performed.

At the present time the writer is very much in favor of performing Savage's operation of shortening the internal rectus in high degrees of exophoria, having performed it a good many times with the very best results. As performed by the writer it is the simplest of all operations and the most effective.—J. A. T.

Correspondence

New York, December 26, 1894.

Mr. Editor—This moment on Wednesday I received the copy of the Times and Register, dated December 22, and am surprised to see

that the error made on page 365 has been confirmed instead of being corrected. I have written twice to you and stated distinctly that "I took strong issue against Dr. Morton and against the theories of D'Arsonval. I was strongly on the side of Professor Houston and Mr. Kenelly, saying that electrocution kills. This does not say that any accidents by electricity necessarily must kill; but it confirms the official reports that electrocution as practiced in New York State prisons does kill.

Dr. Morton was the solitary exponent of believing in D'Arsonval's theory that electrocution may not kill. Yours most truly,

ROBERT NEWMAN.

Miscellany.

THE ASSOCIATION OF ERIE RAILWAY SURGEONS.

Programme of the Annual Meeting, January 10, 1895, 9.30 A. M., at the Tod House, Youngstown, O.

MORNING SESSION.

Reception of guests, etc.

Calling of roll.

Reading of minutes of previous meeting.

Reception of applications for membership.

Reports of committees.

PRESENTATION OF PAPERS.

1. "The use of Alcohol in Traumatic Surgery," by Clayton M. Daniels, M. D., Buffalo, N. Y., ex-President Association of Erie Railway Surgeons.

2. "Immobilization vs. Passive Motion in the Treatment of Injuries to the Joints," by Professor R. Harvey Reed, M. D., Columbus, O.

3. "Potts' Fracture and its Treatment," by Professor C. B. Parker, M. D., Cleveland, O.

4. "Traumatism of the Ear," by R. Sayre Harnden, M. D., ex-President Association of Erie Railway Surgeons, Waverly, N. Y.

AFTERNOON SESSION.

5. President's address.

6. "Delayed Union and Pseudo Ar-

throsis," by William H. Buechner, M. D., Cleveland, O.

7. "Relations of Railway Surgeons to Claim Department," by W. E. Talcott, Special Claim Agent, N. Y., P. & O. R. R., Cleveland, O.

8. "The Treatment of Injuries to Fingers," by Professor Webb J. Kelly, M. D., Galion, O.

9. "After 20 Years' Experience with Ether and Chloroform," by Henry Flood, M. D., Elmira, N. Y.

10. A case of Sphacelus of Leg and Gangrene of Thigh and Inguinal Region, with remarks, by E. Griswold, M. D., Vice President, Sharon, Pa.

11. "Some reasons why we should have, and some of the objections met with in organizing a Hospital System," by Emery H. Leyman, M. D., Huntington, Ind.

12. "Tension," by L. B. Hiner, M. D., Lima, O.

13. "Opportunities of the R. R. Surgeon," by F. D. Bain, M. D., Kenton, O.

14. Subject unannounced. C. S. Parkhill, M. D., Hornellsville, N. Y.

DOCTORS' AND LAWYERS' FEES.

The daily papers, at the present time, are congratulating ex-President Harrison upon receiving a fee of \$25,000 for four hours' work in Court; had a medical man of equal or more ability than Mr. Harrison, charged a many-times millionaire \$5000 for a month's constant attention, the whole press would be charging him with robbery—a man to be avoided when you are sick, etc. Another case in point. Judge Levy, of this city, has just allowed a firm of attorneys a fee of \$80,000 for looking after the routine business of an estate for a few months, and yet this very same Judge refused to allow a fee of \$30,000 which a medical man had presented for many months' attendance on a millionaire and his family. The actual work was probably 100 times more than that performed by the attorney who received \$80,000; while the responsibility was probably 500 times more, yet his Honor, Judge Levy, saw fit to cut the doctor's fee down to \$10,000. And why?—Pacific Medical Journal.